

ABSTRACT OF THE DISCLOSURE

An inductive coil assembly having multiple coils arranged at distinct orientations to provide efficient inductive coupling of power or communications or both to a device when the device is arranged at different orientations with respect to the inductive primary coil. In one embodiment, the inductive coil assembly includes three coils, each oriented along one of the x, y and z axes of a standard Cartesian three-dimensional coordinate system. The three separate coils provide effective transfer of power and communication when the device is at essentially any orientation with respect to the primary coil. In an alternative embodiment, the multi-axis inductive coil assembly of the present invention can function as a primary to inductively transmit power or communication or both over a plurality of magnetic fields at distinct orientations.

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